**Remarks:**

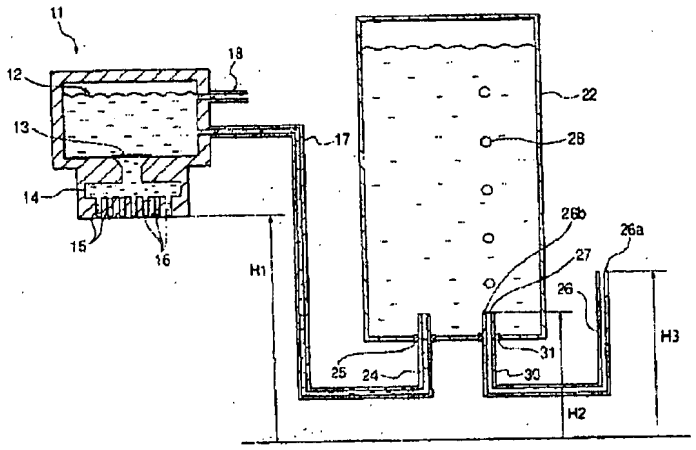
This Response to Office Action is being filed responsive to the June 8, 2007 Office action that was issued in connection with the above-identified patent application. Claims 1, 3, 7-12 and 15-41 are pending in the application. In view of the remarks below, applicants respectfully request reconsideration of the application and allowance of the pending claims.

*Rejections under 35 U.S.C. § 103*

Claims 1, 3, 7-12 and 15-41 are rejected under 35 U.S.C. § 103(a) based on Koizumi et al. (U.S. Patent Application Publication No. US 2003/0025773) variously in view of Pawlowski, Jr. (U.S. Patent No. 5,847,734), Barinaga (U.S. Patent No. 5,675,367) and/or Childers (U.S. Patent No. 6,116,723).

Koizumi et al. discloses an ink jet recording apparatus. The apparatus includes a recording head 11 and an ink tank 22. The recording head includes a sub-tank 12 that stores ink and nozzles 15. Sub-tank 22 is connected to ink tank 22 via an ink supply tube 17 and is mostly filled with ink, but includes an air layer above the ink. Ink tank 22 includes an atmosphere releasing tube 26. Within that tube, a meniscus 27 of ink is formed at the interface between ink and air. The meniscus generates surface tension that exerts a constant negative pressure on nozzles 15 to prevent ink leakage from the nozzles.

FIG. 1




During operation, the meniscus moves to compensate for changes in pressure in the ink tank to maintain the constant negative pressure on nozzles 15 (Koizumi et al.; Fig. 1; p. 4; pars. 0036-0043). When the inner temperature of recording head 11 increases due to heat generation, the air in sub-tank 12 causes pressure in the sub-tank to increase and causes flow of ink from the sub-tank to ink tank 22 to relieve the pressure. Because of that flow, the pressure in the ink tank increases causing meniscus 27 to move away from the ink tank to relieve the pressure. In contrast, when ink in recording head 11 is consumed, the volume of ink in sub-tank 12 is reduced to decrease the pressure in the sub-tank. That decrease causes ink in ink tank 22 to flow into sub-tank 12 via ink supply tube 17. The volume of ink in ink tank 22 is reduced causing a decrease in pressure inside the ink tank. That decrease in pressure causes the meniscus to withdraw into the ink tank, and allows air bubbles 28 to enter into the ink tank to restore the pressure (Koizumi et al.; p. 4; pars. 0044-0047).

Koizumi et al. does not, however, disclose or suggest all of the subject matter recited in independent claims 1, 12, 33, 35 and 38. For example, Koizumi et al. does not disclose or suggest a printing-fluid container that includes an air interface configured to move air out of the printing-fluid reservoir as the printing fluid is moved into the reservoir, as recited in independent claims 1, 12, 33 and 35. Instead, the ink jet recording apparatus of Koizumi et al. includes an ink tank with an atmosphere releasing tube to contain a meniscus of ink, and to allow air bubbles to enter the ink tank.

There is no disclosure or suggestion that the atmosphere releasing tube is configured to move air out of the ink tank, much less that the atmosphere releasing tube is configured to move air out of the ink tank as the ink is moved into the ink tank. Moreover, Koizumi teaches away from modifying the atmosphere releasing tube to move air out of the ink tank because such a modification would not allow a meniscus of ink to form, which would prevent negative pressure from being exerted on the nozzles and would cause an ink leakage from those nozzles (thereby defeating the explicit purpose of the atmosphere releasing tube of containing the meniscus of ink so that the meniscus can exert negative pressure on the nozzles).

Additionally, Koizumi et al. does not disclose or suggest a method of supplying printing fluid that includes allowing air to exit the reservoir through the air-interface as the printing fluid is returned to the reservoir through the printing-fluid interface during a second mode of operation, as recited in independent claim 38. Instead, the ink jet recording apparatus of Koizumi et al. includes an ink tank with an atmosphere releasing tube that allows air bubbles to only enter the ink tank.

There is no disclosure or suggestion of allowing air to exit the ink tank through the atmosphere releasing tube, much less allowing air to exit the ink tank as the ink is returned to the ink tank via the ink supply tube during a second mode of operation. Thus, Koizumi et al. fails to disclose or suggest applicants' printing-fluid container and method of supplying printing fluid as recited in independent claims 1, 12, 33, 35 and 38.

Pawlowski, Jr. discloses an ink pen body 11. The pen body includes a single shallow containment chamber 200 and a lid 210. The lid includes an inlet 214 and an outlet 216, which communicate with chamber 200. A supply tube 98 is connected to inlet 214 to allow ink from a supply to be introduced into chamber 200. A purge tube 220 and a duck-billed valve 222 are connected to outlet 216 to allow flushing of air out of chamber 200 as the chamber fills with ink. The duck-billed valve opens when air pressure in purge tube 220 exceeds a preselected pressure to vent air out of chamber 200. Additionally, duck-billed valve does not admit ambient air into purge tube 220, even with negative pressure in the chamber (Pawlowski, Jr.; Figs. 1-2; col. 8, ln. 62 to col. 9, ln. 13).

FIG. 1

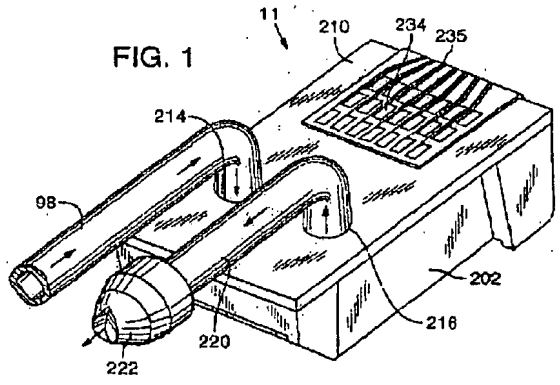
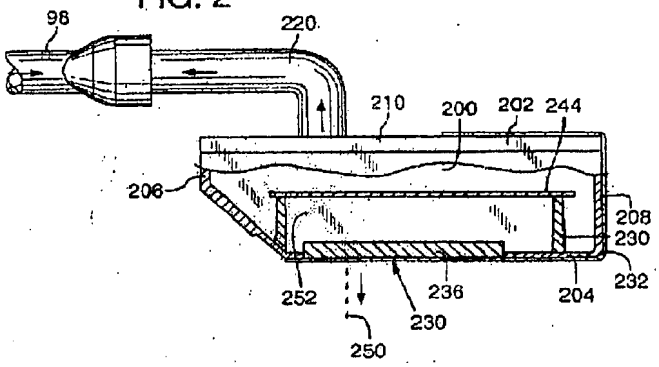


FIG. 2




Pawlowski, Jr. does not, however, disclose or suggest all of the subject matter recited in independent claims 1, 12, 33, 35 and 38. For example, Pawlowski, Jr. does not disclose or suggest a printing-fluid container that includes an air-interface extending into the reservoir and configured to move air into the printing-fluid reservoir as the printing-fluid is moved into and out of the reservoir, as recited in independent claims 1, 12, 33 and 35. Instead, Pawlowski, Jr. discloses an ink pen body with an outlet having a purge tube and a duck-billed valve that prevents air from moving into the chamber of the ink pen body. There is no disclosure or suggestion of an air interface that extends into the chamber, much less an air interface configured to move air into the chamber. Additionally, Pawlowski, Jr. teaches away from moving air into the chamber because Pawlowski, Jr. explicitly teaches including the duck-billed valve with the purge tube to prevent air from entering the chamber.

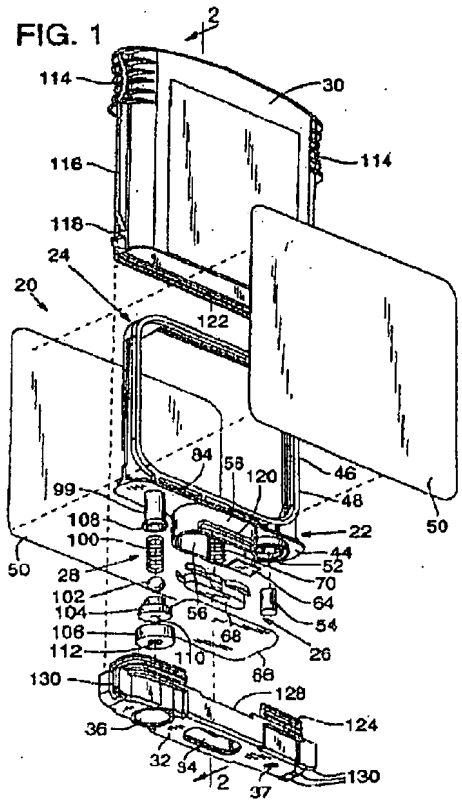
Additionally, Pawlowski, Jr. does not disclose or suggest a method of supplying printing fluid that includes allowing air to enter the reservoir through the air interface during a first mode of operation, as recited in independent claim 38. Instead, the ink pen body of Pawlowski, Jr. includes an outlet having a purge tube and a duck-billed

valve that prevents air from entering the chamber. There is no disclosure or suggestion of allowing air to enter the chamber through the outlet during a first mode of operation.

Moreover, there is no disclosure or suggestion to combine the teachings of Koizumi et al. and Pawlowski, Jr.. Furthermore, even in the improper combination of Koizumi et al. and Pawlowski, Jr. is made, that improper combination would be inoperable. For example, in Fig. 1 of Koizumi et al., replacing ink supply tube 17 and atmosphere releasing tube 26 in Koizumi et al. for supply tube 98 and purge tube 220 in Pawlowski, Jr., would not allow the ink tank to be filled because the purge tube would begin leaking ink shortly after the filling process begins. Additionally, the duck-billed valve likely will not prevent ink from leaking outside the ink tank during the filling process, even though that valve would prevent air from entering into the ink tank. Even if the duck-billed valve somehow prevented the ink from leaking, the purge tube would be filled with ink and would prevent any air from entering or exiting the ink tank via that tube. Thus, Pawlowski, Jr., either alone or in combination with Koizumi et al., fails to disclose or suggest applicants' printing fluid container and method of supplying printing fluid as recited in independent claims 1, 12, 33, 35 and 38.

Barinaga discloses an ink supply 20 including an ink reservoir 24, a fluid outlet 28 having a septum 104 and a fill port 52. The ink reservoir is filled with ink by injecting ink through fill port 52. A needle is inserted through septum 104 of fluid outlet 28 to allow escape of air from within the reservoir. Once the ink reservoir is filled, a septum 54 is pressed into the fill port to prevent the "escape of ink or the entry of air" (Barinaga; Fig. 1; col. 6, lns. 18-35).

FIG. 1




Barinaga does not, however, disclose or suggest all of the subject matter recited in independent claims 1, 12, 33, 35 and 38. For example, Barinaga does not disclose or suggest an air interface configured to move air into the printing fluid reservoir, as recited in independent claims 1, 12, 33 and 35. Instead, a needle is inserted through a septum of the fluid outlet to allow escape of air from within the reservoir. There is no disclosure or suggestion of allowing air to move into the reservoir. In fact, Barinaga teaches away from allowing air to move into the reservoir because Barinaga explicitly teaches to press a septum into a fill port to prevent the entry of air after the reservoir is filled with ink.

Additionally, Barinaga does not disclose or suggest allowing air to enter the reservoir through the air-interface during a first mode of operation, as recited in independent claim 38. Instead, air is allowed to escape from within the reservoir by inserting a needle through a septum of the fluid outlet. There is no disclosure or suggestion of allowing air to enter the reservoir during a first mode of operation. Thus, Barinaga, either alone or in combination with Koizumi et al. and/or Pawlowski, Jr., fails to disclose or suggest applicants' printing fluid container and method of supplying printing fluid as recited in independent claims 1, 12, 33, 35 and 38.

Childers discloses an ink container including a collapsible ink reservoir that is pressurized by a pressure source to provide pressurized ink to an ink jet printhead (Childers; col. 2, lns. 33-52). Childers does not, however, disclose or suggest all of the subject matter recited in independent claims 1, 12, 33, 35 and 38. For example, Childers does not disclose or suggest a printing-fluid container including a printing-fluid reservoir configured to hold a free volume of printing fluid and air mixed together therein, as recited in independent claims 1, 12, 33 and 35. Additionally, Childers does not disclose or suggest a method of supplying printing fluid including storing a free volume of printing fluid and air mixed together in a reservoir, as recited in independent claim 38. Instead, the Childers' ink container includes a collapsible ink reservoir that is pressurized by a pressure source. There is no disclosure or suggestion in Childers of storing a free volume of ink in the ink reservoir. Thus, Childers, both alone and in combination with Koizumi et al., Pawlowski, Jr. and/or Barinaga, fails to disclose or

suggest applicants' printing fluid container and method of supplying printing fluid as recited in independent claims 1, 12, 33, 35 and 38.

For at least the above reasons, the rejections of independent claims 1, 12, 33, 35 and 38 under 35 U.S.C. § 103(a) should be withdrawn. Claims 3, 7-11, 15-32, 34, 36-37 and 39-41 depend from independent claims 1, 12, 33, 35 and 38, and thus are allowable for at least the same reasons as those independent claims.

*Conclusion*

Applicants believe that this application is now in condition for allowance, in view of the above remarks. Accordingly, applicants respectfully request that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this correspondence is being facsimile transmitted to Examiner L. Martin, Group Art Unit 2853, Assistant Commissioner for Patents, at facsimile number (571) 273-8300 on September 6, 2007.

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